

01FN046US
Amendment dated 09/22/2003

09/916,529

02230028aa
Reply to office action mailed 06/23/2003

REMARKS

Claims 1-9 are currently pending in the application, non-elected claims 10-63 having been cancelled by amendment filed May 21, 2003. By this amendment, claims 1, 5 and 6 are amended and claim 4 is canceled. The foregoing separate sheets marked as "Listing of Claims" shows all the claims in the application, with an indication of the current status of each.

In the specification, the text has been amended to correct certain grammatical constructions. Further, in order to conform ambiguities in the text to what is shown in the drawings, the item numbers for "underlying layer" are placed immediately following. Also, at page 79, line 24, "magnetic layer 8" refers to "first magnetic layer 8" in conformity with Figure 91 and with the text at page 80, line 27, and also to avoid an internal conflict with "the second magnetic layer 12b" designation at page 79, line 23. No new matter has been added.

The Examiner has objected to certain informalities in claims 4-6, which are corrected by this amendment as required by the Examiner.

The Examiner has rejected claims 1-9 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,469,879 to Redon et al. ("Redon").

The present invention overcomes the inability of prior art structures to provide a magneto-resistance effect element that achieves three objectives together: 1) prevent the sense current from flowing into the vertical bias layer; 2) provide a read signal having a low noise level; and 3) where the read signal has a good signal to noise (S/N) ratio and bit error rate. Redon seeks to provide a magneto-resistive tunnel junction wherein the current flows mainly in the center rather than mainly branching to the end portions, so as to achieve a high head output and provide flexibility in selection of biasing means. Both inventions provide a free layer extending over the vertical bias area, on top of which is a non-magnetic layer, and then a pinned and a pinning layer. However, there is no indication in Redon on an underlying layer. The Examiner

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suggests that items 21 and 22 in Figure 3 are underlying layers for the free layer, but this is incorrect. The description in Figure 3 is of the non-magnetic layer, showing how it may be used. In contrast, the present invention uses the underlying layer, for example, to allow the vertical bias layer to apply a vertical bias magnetic field to the free layer more effectively. There is no suggestion in Redon of a similar structure.

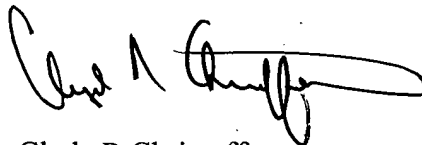
Consequently, the limitation of claim 4 has been included in independent claims 1 and 6.

In view of the foregoing, it is requested that the application be reconsidered, that claims 1-3 and 5-9 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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